

*catalogue of unrelated parts*

Claims

1. An apparatus for manufacturing a fiberoptic device, comprising:

*unde, requ* a first stage;

*(4)* a fiber rotator disposed on said first stage, said fiber rotator carrying an optical fiber therein, and rotating said optical fiber about an optical axis thereof;

*1/2 2nd* a second stage for holding a silicon slab;

*(8)* a fiber gripping assembly disposed between said first stage and said second stage for gripping an intermediate portion of said optical fiber;

a first viewer directed toward said silicon slab along a Y-axis; *(no sufficient interrelationship)*

*(13)* a second viewer directed toward an end face of said optical fiber in a Z-axis; *(A.H.)*

wherein responsive to views displayed by said first viewer and said second viewer, said first stage, said second stage, said fiber rotator, and said fiber gripping assembly are adjustable to establish said optical fiber in a desired position on said silicon slab.

2. The apparatus according to claim 1, further comprising:

*?*  
a third stage;

a weight, mounted on said third stage, wherein a free end of said weight impinges on said optical fiber to urge an end portion of said optical fiber onto said silicon slab.

3. The apparatus according to claim 2, wherein said third stage is movable on an X-axis and said Z-axis.

4. The apparatus according to claim 2, wherein said weight is pivotally mounted and pivots between a first position wherein said weight is in a non-contacting relationship with said optical fiber and a second position wherein said weight impinges on said optical fiber.

5. The apparatus according to claim 2, wherein said weight comprises:

a first weight that urges said end portion of said optical fiber into a groove formed in said silicon slab; and

a second weight that urges said end portion of said optical fiber onto a flat portion of said silicon slab.

6. The apparatus according to claim 2, wherein a contacting surface of said free end of said weight is parallel to a top portion of said silicon slab when said contacting surface is in contact with said optical fiber.

7. The apparatus according to claim 1, wherein said fiber gripping assembly is supplied by a vacuum line, and includes a channel formed therein for establishing fluid communication between said vacuum line and a tip portion of said fiber gripping assembly;

wherein said optical fiber is held in said tip portion of said fiber gripping assembly by suction transmitted via said channel.





responsive to said step of visualizing, rotating said optical fiber about said Z-axis until said polarization axis attains a desired alignment.

19. The method according to claim 15, further comprising the steps of:

applying a weight to an intermediate portion of said optical fiber while performing said step of adjusting said position.

20. An apparatus for manufacturing a fiberoptic device, comprising:

a first stage;

a fiber rotator disposed on said first stage, said fiber rotator carrying an optical fiber therein, and rotating said optical fiber about an optical axis thereof;

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a second stage for holding a slab;
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a fiber gripping assembly disposed between said first stage and said second stage for gripping an intermediate portion of said optical fiber, wherein said fiber gripping assembly is supplied by a first vacuum line, and includes a channel formed therein for establishing fluid communication between said first vacuum line and a tip portion of said fiber gripping assembly, said optical fiber being held in said tip portion of said fiber gripping assembly by suction transmitted via said channel, wherein a groove is formed in said tip portion, said groove being dimensioned such that a surface of said optical fiber contacts a first side wall of said groove and contacts a second side wall of said groove;



24. The apparatus according to claim 20, wherein said second stage is connected to a second vacuum line and said slab is exposed to vacuum transmitted via said second vacuum line.

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